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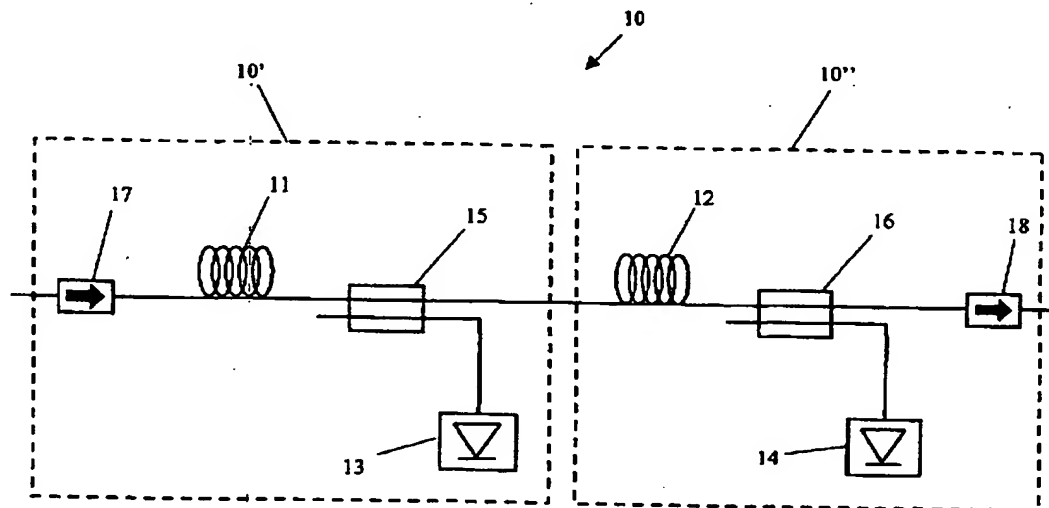
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(54) Title: MULTI-STAGE RAMAN AMPLIFIER



(57) Abstract: A Raman amplifier comprises at least a first and a second optical Raman-active fiber disposed in series with each other. A first pump source is connected to the first Raman-active fiber, and is adapted for emitting and coupling into the first Raman-active fiber a first pump radiation including a first group of frequencies. A second pump source is connected to the second Raman-active fiber, and is adapted for emitting and coupling into the second Raman-active fiber a second pump radiation including a second group of frequencies. The whole of said first and second group of frequencies extends over a pump frequency range having a width of at least the 40% of the Raman shift. The minimum and the maximum frequency in each of said first and second group of frequencies differ with each other of at most the 70% of said Raman shift.